

ABSTRACT OF THE DISCLOSURE

Disclosed is a wavelength division multiplexing passive optical network (WDM PON) system in which an optical signal
5 outputted from a central office is injected into a Fabry-Perot laser diode (F-P LD) as the light source of an optical network unit, so that the output wavelength of the optical network unit is injection-locked at the same wavelength as that of the optical signal outputted from the central office, thereby
10 enabling the optical network unit to output an optical signal having the same wavelength as that of the optical signal outputted from the central office. In accordance with this system, it is possible to transmit and receive forward and backward data at the same wavelength by the unit of channels.
15 Since inexpensive F-P LDs are used as respective light sources of the central office and optical network units, it is possible to efficiently and economically implement a WDM PON system.